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# Fundamentals of Sustainable Development in Sub-Saharan Africa: A Focus on Water Policy in Nigeria

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**ABSTRACT.** Development and its sustainability have undeviatingly remained critical components of social science investigation. Sub-Saharan Africa has also continued to elicit mainstream investigative attention. There is apparently, acute bewilderment on what has become the fate of development in this region of the international community. Findings of this study indeed validate a hypothesis of gargantuan developmental challenges in Sub-Saharan Africa. Consequently, policy ambivalences on water are indicative of the difficulties of sustainable development in the African region. It is concluded in this study that the availability of sound water policies and the spirited implementation of such policies can change the atmosphere of weariness in this African area. To engender the requisite sustainable development therefore requires that the composite governments (and other private investors) in Sub-Saharan Africa should embark on massive and functional water schemes, borne of credible water policies. The Nigerian state is strategically placed by naturally hued opportunities to take the lead in this regard.

## 1. INTRODUCTION

The UNESCO Director-General, Koichiro Matsuura[1] opines that of the entire social and natural crises we humans face, a water crisis is one that lies at the heart of our survival and that of our planet (Earth). Furthermore, Nelson Mandela<sup>1</sup> [1] opined also that among the many things he learnt, as a president, was the centrality of water in the social, political and economic affairs of the country, the continent and the world. Water is therefore a basic need and an important catalyst for accelerating socio-economic development [1]. According to Alhassan and Kwakwa [2] the world has over 1 billion people without access to safe drinking water and it is expected that the number of people living in water-stressed or water-scarce places will increase to 3.4 billion by 2025. And one cannot ignore the effect that such a situation will have on the vulnerable groups. The availability of safe drinking water therefore represents a global challenge. Although the authorities have sustained substantial efforts in two priority areas: water quantity and water quality assurance [3,4].

UNCHR<sup>2</sup> et al. [2] highlight that water is a very important resource needed to sustain life, and safe drinking water is a fundamental requirement for human life. The United Nations-led documentation actually declares that water is the essence of life [5]. Furthermore, UNCHR et al highlight that the concept of basic water requirements to meet fundamental human needs was first established at the 1977 United Nations Water Conference in Mar del Plata, Argentina. Its Action Plan asserted that all peoples, whatever their stage of development and their social and economic conditions had the right to have access to drinking water, in quantities and of a quality equal to their basic needs. Subsequently, many international conventions and publications, regional declarations, national legislations and pronouncements, have emanated in support of the centrality of water in human affairs [5]. Beyond the ample documentation of these plans and some evident action, how do the plans (and in some cases, ostensible action) dovetail into globally sustainable development?

It has been highlighted that over 2.8 billion people in 48 countries, including countries in sub-Saharan Africa, will face water stress by 2025, based on United Nations medium population

projections. Furthermore, about 20% of the population of the world, i.e. about one billion people lack access to safe drinking water, over 50% (3 billion) are without sanitation and over 80% of all diseases and a little over one third of deaths in developing countries are linked to water. Nearly half a billion people in 31 countries face water shortage problems and this is expected to increase to nearly two thirds of the world population by 2025. Two (2) in every 10 people on earth lack access to safe water supply and many women and girls spend hours (often 4 to 6 hours) daily fetching and ferrying water, effectively precluding girls from attending school and getting an education [6,7,8,9]. Freitas [9] further adds that degradation of freshwater ecosystems and land, worsens the frequency and effect of droughts, floods and other natural hazards. And this effect is more pronounced in areas that are ecologically fragile, where poor people often live, like in sub-Saharan Africa.

The Nigerian state is in the West African geo-political sub-region of the international community. It also belongs to the sub-Saharan African categorization, which refers to the African countries, locatable south of the Sahara Desert. Sub-Saharan Africa's population is currently estimated to be 800 million [10]. Nigeria's population is also estimated in excess of 177 million [11]. There are 44 countries in sub-Saharan Africa [12]. Therefore, Nigeria's population is about 22% of the population of the entire sub-Saharan Africa. In addition, disregarding Nigeria, the average population of Sub-Saharan African countries is only 18.6 million. Anaele [13] has also opined that in political parlance, SSA denotes the emergent states of Africa riddled with burden of under development, intricately woven with poverty, worsening political instability and economic crisis. Thus, SSA conjures two senses, namely; a geographical area and under-development[13]. This study therefore proceeds to utilize Nigeria as case study, her water policy as focus of study, in interrogating the fundamentals of sustainable development in sub-Saharan Africa.

Nigeria is essentially, a country of immense endowments and invariably a nation of profound potentials which is also available in the area of water. Hence, according to the nation's National Water Resources Master Plan (1995):

The country is drained mainly by the River Niger and its main tributary, the River Benue and their numerous minor tributaries, as well as by the Lake Chad basin and the rivers that discharge into it. There are several other perennial rivers, e.g. Gongola, Hadejia-Jama'are, Kaduna, Cross River, Sokoto, Ogun, Osun, and Imo. Total surface runoff is large. Annual runoff at the Lokoja gauging station on River Niger has been recorded as up to 165.80 billion cubic meters. Volume of available groundwater is also considerable in large sedimentary basins (the Sokoto and the Chad basins) which lie along the country's international boundaries. Nigeria, with a land area of about 924,000 sq.km is located within the tropics where its climate is semi-arid in the North, gradually becoming humid in the South. The annual rainfall varies from over 4,000mm in the South-East, to below 250mm in the extreme North-East, and is subject to significant temporal variation. The surface water resources potential of the country is estimated at 267.3 billion cubic metres while the groundwater potential is 51.9 billion cubic metres [14].

However, the monumental capacities of this territorial giant, particularly from the aquatic angle, have remained largely unexplored. How does this scenario affect sustainable development in Nigeria and invariably in sub-Saharan Africa? What should government and other stakeholders do, to facilitate the role of water, in sustainable development-planning in Nigeria? The analytical template of the study is expectedly, sustainable development. Secondary sources of data have been examined to determine the actualities, and based on the attendant findings, to make some prognosis and recommendations on what needs to be done.

## 2. CONCEPTUAL EXPLICATION

### Sustainable Development

Development is a multifaceted process that could be enhanced or impeded by a myriad of factors [15]. Furthermore, Noyoo posits that there is no consensus on what should be understood by development. Neither is there agreement on how development can best be brought about nor why it has proved so difficult for most of the poor countries in the developing world (inclusive of Sub-Saharan African countries of course) to achieve any kind of improvement for the large majority of their citizens. Accordingly in this study, we depict development (of a nation / a developed nation) as where there is only a minimal or negligible level of poverty, misery and insecurity among the citizenry. Ideally, development should be a process that raises the material and living conditions of people [15]. And what then is sustainable development?

Credit for originating the "sustainable development" concept is generally given to the 1987 report of World Commission on Environment and Development [16]. Popularly referred to as the Brundtland Commission; the Commission's report, entitled, *Our Common Future: From One Earth to One World*, called for emboldened and dramatically new conceptions of development, that advanced the material wants of the present generation, without depriving future generations of the resources required to satisfy their needs. The Brundtland Commission conceptualized "sustainable development" rather simply as paths of human progress which meet the needs and aspirations of the present generation, without compromising the ability of future generations to meet their needs [17,18].

Today, continues Estes [17,18] the sustainable development "movement" is multidisciplinary and cross-sectoral. The movement brings together, specialists from the physical and environmental sciences, along with experts in development economics, political science, appropriate technology, human and women's rights, and others. Estes further adds that despite the apparent simplicity of the Brundtland Commission's definition of sustainable development, the concept itself is rather complex [17,18]. This complexity apparently emanates from the variety of definitions and interpretations to which the concept of sustainable development has become prone.

Despite the variety of definitions and interpretations [19], sustainability consistently means, either explicitly or implicitly, "continuity through time". Rather than referring to continuity per se, sustainability associates continue to contest dependent economic, ecological and societal (EES) issues [19]. It has further been posited that a decision-making process regarding sustainable development is first and foremost, a political and, therefore, a subjective issue [19,20,21,22]. This study is however, conceptually attracted to the political trajectory of sustainable development. It agrees with the position of Acemoglu and Robinson [23] to which the study subscribes: that the development of nations is squarely a function of the positive impacts of the nations' political institutions. Sustainable development therefore refers to continuity through time of only the existence of minimal or negligible level of poverty, misery and insecurity among the citizenry of a given state.

### Public Policy (Water Policy)

Policy has been defined as a definite course or method of action, selected from among alternatives and in the light of given conditions, to guide and usually determine present and future decisions [24]. Policy is usually denotable, as private or public policy. When it is public policy (as applicable to this study) it refers to what public administrators implement [25]. It refers to the template of methods that guide the actions of public administrators in given situations. Anderson [26] perceives public policy as a relatively purposive course of action, followed by an actor or a set of actors, in dealing with a problem or matter of concern. Dye [27] sees public policy as whatever governments choose to do or not to do. Consequently, Chandler and Plano [28] see public policy as the strategic use of resources to alleviate national problems of governmental concern.

Water policy in a nation state, indeed falls within these trajectories. It falls within the categorization of public policy but still requires further explication in the context of this study. And

so, water policy in a national economy is construed in this study as the selected courses of action, for the effective and efficient management of the nation's water resources and for the guarantee of safe and affordable water-availability to the citizenry. It ideally constitutes a critical component of national planning in a developing economy, where health and environmental issues are still evidently problematic. Countries of Sub-Saharan Africa currently belong in large numbers to this categorization.

### **3. SUB-SAHARAN AFRICA: A CONDENSED SOCIO-POLITICAL AND ECONOMIC ACCOUNT**

Anaele [13] has depicted the condition of Sub-Saharan Africa as where the persistence of government-inflicted tragedies have caused avoidable mass poverty, illiteracy, low political culture, escalation of preventable killer diseases, grinding hunger, economic and political crisis, terror, civil wars, insurgency, preponderance of weak institutions, insecurity, low industrial absorptive capacity, rising human frustration, abuse of human rights, endemic corruption, and all manners of unimaginable human-induced miseries. Therefore, the earlier portrayal of Noyoo [15] of the sub-Saharan African condition still subsists. He argued that Sub-Saharan Africa was confronted by many socio-political and economic maladies. Aghedo [29] further adds that much of sub-Saharan Africa reflects the state fragility syndrome, as twenty-two of the twenty-eight weakest governments on the Brookings Institution's index of state weakness are in (Sub-Saharan) Africa.

In Sub-Saharan Africa therefore, the fundamentals of sustainable development are yet to be deeply located. Where however, Anaele opines that possible solutions appear not visible in the near future, this study is a contribution towards making such solutions to materialize in the near future. Anaele has also suggested that if you see one country of Sub-Saharan Africa, you have seen all others in their traumatic conditions. Thus, this study is using Nigeria as case study, to examine the importance of water policy, in sustainable developmental-planning among Sub-Saharan African countries.

### **4. WATER POLICY, SUSTAINABLE DEVELOPMENT IN NIGERIA AND THE SUB-SAHARAN AFRICAN NEXUS**

Water has been identified as a crucial resource for all life, critical production and sustainable development, while a lack of access to water has been linked to poverty. Water availability is also closely linked to human welfare and human health, by its effects on nutrition status and the quantity of drinking water needed by every individual. Water issues have impacts on household labour because of the time and energy spent in obtaining water [30]. In consequence, securing safe, reliable, reasonably-priced water and sanitation services for all, is one of the leading challenges facing sustainable development. There is also widespread concern that poor water management will be one of the major factors limiting sustainable development during the next few decades [30]. Then, how does water policy in Nigeria relate with these challenges?

Nigeria's National Water Policy [14] is in this regard, an exemplary document. It identifies problems and challenges and has also built scenarios for solution to the critical issues raised in the policy document. However, the Nigerian problem remains: how many Nigerian citizens are aware that there is a water policy for the country? How many public officials, even in the water-related areas know about the availability of such a template in the country, on utilization of water, water facilities' installation and the maintenance of such facilities? Consequently, the problem of water in the context of sustainable development in Nigeria and indeed elsewhere in sub-Saharan Africa will have to do more with the issue of implementation of policy than the availability of such policies (see Makinde [31]. Olaiya [32] therefore opines that policy should actually involve what governments do, as different from what they merely intend to do or governments' promises - what Heywood [33] also sees as the imperatives of linkage between intentions, actions and results.

Hence, the most damnable sight about water availability in Nigerian cities is the incidence of children and other young men and women, family members and domestic servants, carrying heavy cans of water, up multistoried buildings. They had earlier gone to nearby boreholes to buy the water from the borehole proprietors. Subsequently, they arrange the heavy containers in carts and push them to their residences, from where the weighty cans are now moved upstairs. For these unpaid water labourers, they do this every morning and every evening. OHCHR et al [5] highlight that millions of poor people living in informal settlements are simply missing from national statistics. In the Nigerian state, even the citizens residing in formal and pseudo-formal settlements are also missing from national statistics, so that when public officials claim that the Nigerian system is engendering water security, the statistics on which the claims are based are usually, monumentally spurious. Water that is available for domestic utilization and public consumption in Nigeria are invariably largely untreated.

Furthermore, water availability in Nigeria is currently a highly commercialized venture. (Provision of water for sustainable development should not be so highly commercialized). The principal business promoters are the owners of the ubiquitous boreholes. The truth is that water does not run in Nigerian residences. Where you find water in residences, they are not from public mains. They are links from boreholes sunk in such residences or public buildings. Water that is available in hotel rooms in Nigeria come from boreholes that are sunk in such places, not from any central water systems, certified fit for consumption by water authorities (to which citizens are obligated to pay rates). When children are sent off to school in the morning in Nigeria, they are provided with cans of water purchased by affluent parents for their children and the ones bought by the not so affluent parents from the borehole commercial dispensers of water. There is no general provision for water in Nigerian schools.

The picture painted in this study is the true depiction of the reality where Nigerians in their large numbers reside. It is not the picture of highbrow residential areas where the super-rich reside or the portrait of some other institutions that attend to the needs of the Nigerian elite. Curiously, statistics on water availability in Nigeria are usually sourced from such highbrow areas and elite-conclaves and what remains of the other areas are made up of highly stylish abracadabra. In the Nigerian economy, to have water running in your residence is an indication of affluence. There is no guaranty of safety of water available in a Nigerian hospital (where there is water in such a hospital). Patients purchase water from outside the hospital for usage in such Nigerian hospitals. In public tertiary institutions, resident-students spend unending man-hours in search of water. And students in "off-campus" residences in such public institutions purchase the water they use for their domestic needs. And very often among such students, disputes over water-purchase and utilization, degenerate into physical combats.

The Nigerian water policy is therefore only exemplary in the documentation of commitment. But the critical issue truly borders on moving from documentation to definitive action. This is because, some current statements on the importance of water (as found in the Nigerian policy document) are not being followed by the commitment of resources and actions needed to realise the potential contribution...that water management can make [34]. This is also partly because, the potential of water management, not only as an engine...of environmental sustainability and improved health conditions but also of straightforward economic growth and livelihoods development is not well understood [34]. Consequently, more of what is on ground (and on paper) borders on political rhetoric. But what is direly required is the translation of political rhetoric into sustainable actions [34]. The policy implications of all of this are describable as policy ambivalences.

Freitas [35] and Rachidi [9] consequently disclose that despite the progress made by some countries, Sub-Saharan Africa as a whole still lags behind most regions in the world when it comes to water access, management and supply, and that according to the World Health Organisation (WHO), over 40% of all people who do not have access to drinking water live in Sub-Saharan Africa. Many of these people (by Nigeria's population size) are resident in this country. Citing

Carles [36] and Nwankwoala [7], Rachidi [9] further submits that the situation of water stress appears to be worse in sub-Saharan Africa. And so, according to WHO [37] water-related diseases include:

- those due to micro-organisms and chemicals in water people drink;
- diseases like schistosomiasis which have part of their lifecycle in water;
- diseases like malaria with water-related vectors;
- drowning and some injuries;
- And others such as legionellosis carried by aerosols containing certain micro-organisms

Furthermore, highlights WHO [37], inadequate drinking-water, sanitation and hygiene are estimated to cause 842,000 diarrhoeal disease deaths per year and contribute substantially to the other diseases listed above. Thus, for water policy to be fully impactful, it must address specific issues and successfully combat associated debilitations, arising from such specific issues. It should for instance address the health issues of malaria and diarrhea, as water-related health matters. Hence, in their global assessment of exposure to faecal contamination through drinking water, Bain, et al. [38] found that microbial contamination is widespread in lower and middle-income countries and affects all water-source types, including piped supplies. They also concluded that drinking water is more likely to be contaminated in rural areas than urban areas, and faecal contamination was most prevalent in Africa and South-East Asia. Water policy in Nigeria and Sub-Saharan Africa should also focus on such specific issues of microbial contamination.

Furthermore, Nwankwoala [7] has posited that as it is the case in most parts of sub-Saharan Africa, water demand in Nigeria far outstrips supply. And indeed, it is considered perplexing that water demand should exceed water supply in Nigeria. As a matter of fact, water supply for domestic and every other use should be one area where Nigeria could truly prove to be a world leader, for it has all the water-related capacities to do so. Adequate and safe water supply truly lies at the heart of development [7]. It is in this study considered one of the fundamentals of sustainable development. Invariably, no nation or region of the world may be categorized as developed or developing, where the availability of water, that is certified safe for sundry consumption, is not taken for granted.

## 5. WHAT NEEDS TO BE DONE

The study now specifically turns attention to what needs to be done. And indeed what needs to be done entails massive public expenditure on water matters. It primarily entails the acceptance of the reality on the ground by policy makers in sub-Saharan Africa, to the effect that the citizens do not have easy access to water, in the desirable quantity and necessary quality. What needs to be done requires the discarding of fictitious statistics. It requires a realization that the current circumstances are not sustainable, where only the citizens who can sink boreholes in their buildings can guarantee the availability of water. It requires the awareness that the situation whereby there is a borehole per building in a country will not guarantee safety of the water that is available from the ubiquitous boreholes.

In fact, what needs to be done in the area of water policy and provision of water in Nigeria in particular and invariably in Sub-Saharan Africa, requires that the availability of water should be taken for granted in the nations' educational institutions, in hospitals and indeed in many public places. It is strongly opined in this study that the pipe-borne-water system be reintroduced in the Nigerian nation state. This would serve as indication to the other Sub-Saharan African countries where such systems have also gone moribund that sustainable development demands such fundamental practices<sup>3</sup>. Sustainable development would require healthy citizens as catalysts of development. Conversely, when a system is bedeviled by water-borne diseases, the consequent scenario may be anything but not sustainable development. It is further opined in this study that what needs to be done requires the tasking of local councils (both in the urban and rural areas) to statutorily provide water for the citizens in their various jurisdictions.

## 6. CONCLUSION

Water is life and adequate supply of water is central to civilization [14]. Water is essential to the sustenance of life and a satisfactory (adequate, safe and accessible) supply of water must be available to all. Improving access to safe drinking-water can result in tangible benefits to health. Every effort should therefore be made to achieve a drinking-water quality as safe as practicable [39]. And so, to engender sustainable development in sub-Saharan Africa requires that the composite governments and other private investors should embark on massive but functional water schemes. Part of the critical issues is that, among Sub-Saharan African states, sustainable development has been reduced to a mere governance mantra by public officials. Sustainable development is consequently only understood as good governance vocabulary. Ipso facto, water supply and environmental sanitation are given peripheral attention.

But the truth is that spirited water management has the potential to be a key factor in many aspects of sustainable development. Poverty remains a major problem in Sub-Saharan Africa. Water supply, environmental sanitation; poverty reduction and sustainable development in Sub-Saharan Africa are interrelated [34]. Nigeria, the most populous country in Sub-Saharan Africa, should take the lead, in self-evidently getting right its water-policy fundamentals, as a critical part of the generic fundamentals of sustainable development in Sub-Saharan Africa. Nigeria's failure on many fronts, is usually suggestive of sub-regional failure in Sub-Saharan Africa. The failure syndrome must not be tolerated on these water matters.

## NOTES

1. Nelson Mandela (now late) was the legendary (globally revered) black South African anti-apartheid leader, jailed for life because of his struggles to liberate South Africa from White minority rule. Upon his release (after spending 27 years in jail) he became the first President of a non-racist South Africa.
2. Having accessed this document myself, I will also be referring to it in this study as OHCHR et al (2010). OHCHR stands for the Office of the United Nations High Commissioner for Human Rights.
3. It is very commonly believed by ordinary citizens in Nigeria that evidence of pipe-borne water in the country is only seen on television. This researcher (who is resident in Nigeria) does not know of any Nigerian who works in the Water Board or Water Corporation, neither have I recently met or overheard any Nigerian talking about water rates, the way Nigerian citizens discuss their electricity bills. You can find Nigerians working in Ministries of Water Resources or Inland Water Ways or River Basin Development Authorities. But these are only extractive institutions (Acemoglu & Robinson, 2012). The Water Boards or Water Corporations that previously supplied water by public mains in Nigeria have since gone kaput.

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